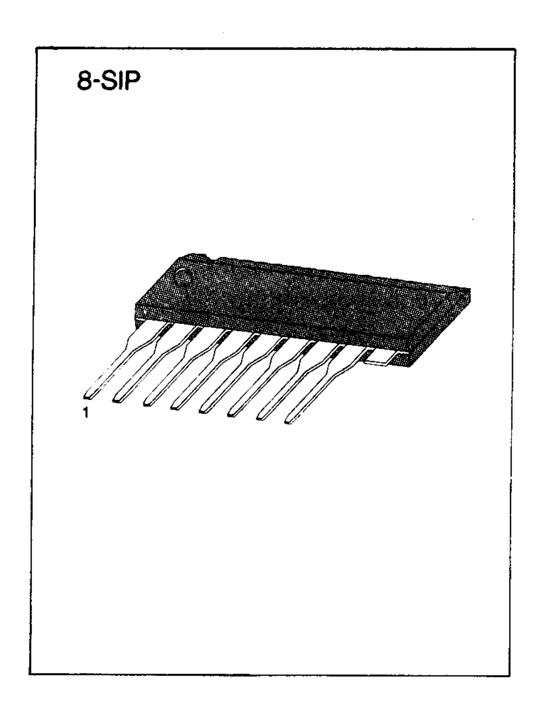
DUAL LOW NOISE EQUALIZER AMPLIFIER

The KA1222 is a monolithic integrated circuit consisting of a 2-channel pre-amplifier in a 8-pin plastic single in line package. Minimum operating voltage is 2.5 volts, thus it is suitable for low voltage application.



FEATURES

- **Wide operating supply voltage: V_{CC} = 2.5V ~ 6V**
- **Low noise (V_{NI} = 1.0μV: Typ).**
- **High channel separation.**
- **Good ripple rejection ratio.**
- **Minimum number of external parts required.**

ORDERING INFORMATION

Device	Package	Operating Temperature
KA1222	8-SIP	− 20 ~ + 70°C

BLOCK DIAGRAM

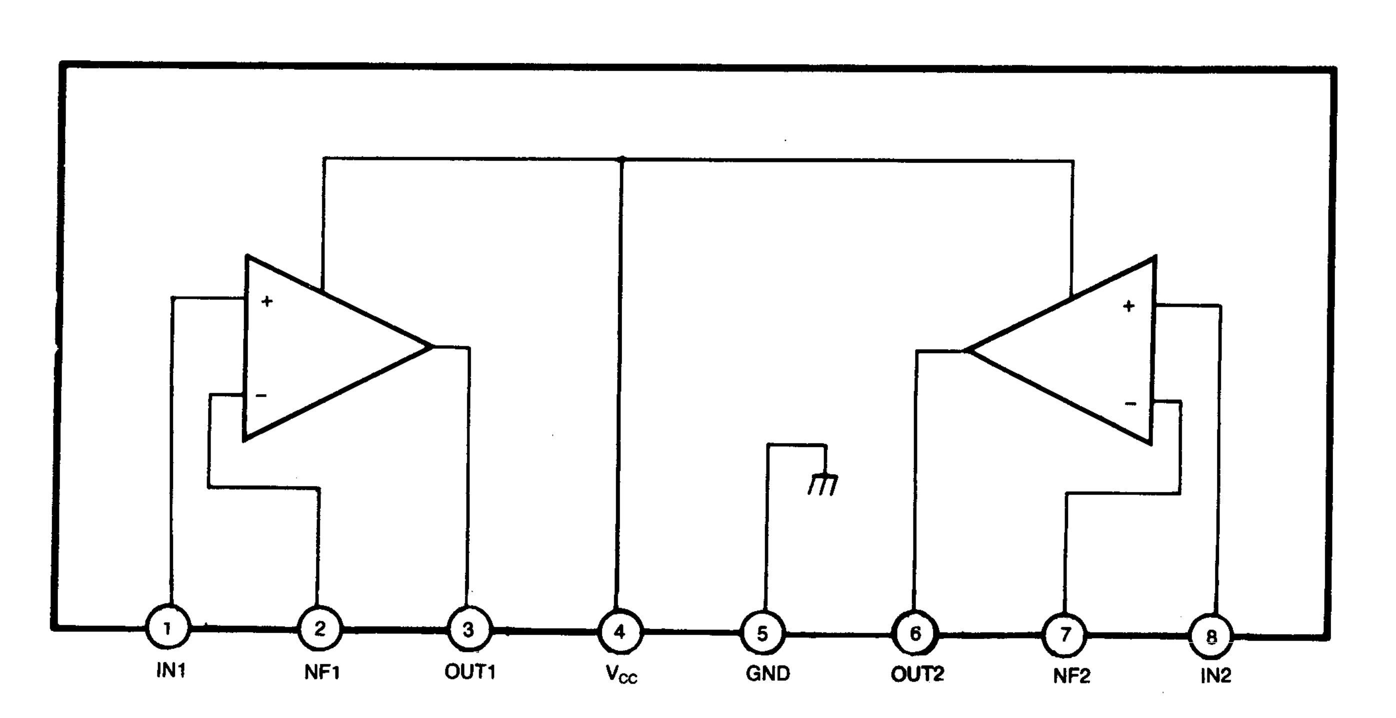


Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	7.5	V
Power Dissipation	P_D	200	mW
Operating Temperature	T_{OPR}	−20 ~ +70	°C
Storage Temperature	T_{STG}	−40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 4V, R_L = 10KΩ, R_G = 600Ω, f = 1KHz, NAB, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CCQ}	V_I = 0		2.0	6.0	mA
Open Loop Voltage Gain	G_{VO}		65	80		dB
Closed Loop Voltage Gain	G_{VC}	V_O = 0.2V	33	35	37	dB
Output Voltage	V_O	THD=1%	0.4	0.7		V
Total Harmonic Distortion	THD	V_O = 0.2V		0.1	0.3	%
Input Resistance	R_I			150		KΩ
Equivalent Input Noise Voltage	V_{NI}	R_G = 2.2KΩ BW (−3dB)=15Hz ~ 30KHz		1.0	2.0	μV
Cross Talk	CT	R_G = 2.2KΩ	50	65		dB

TEST CIRCUIT

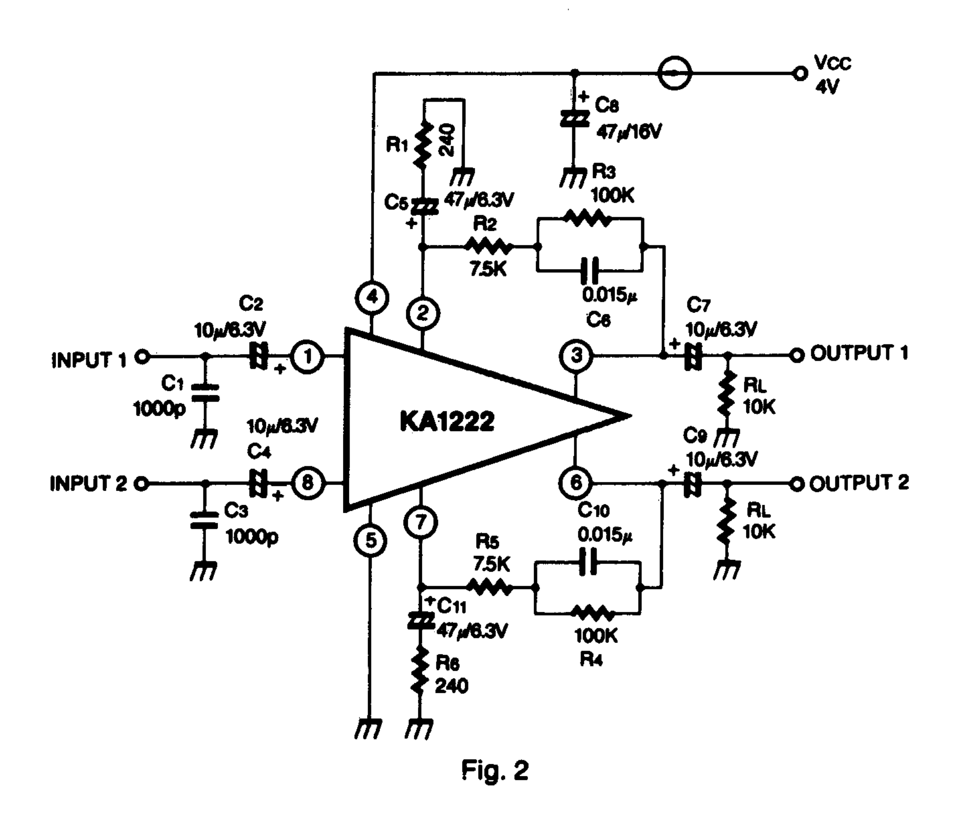
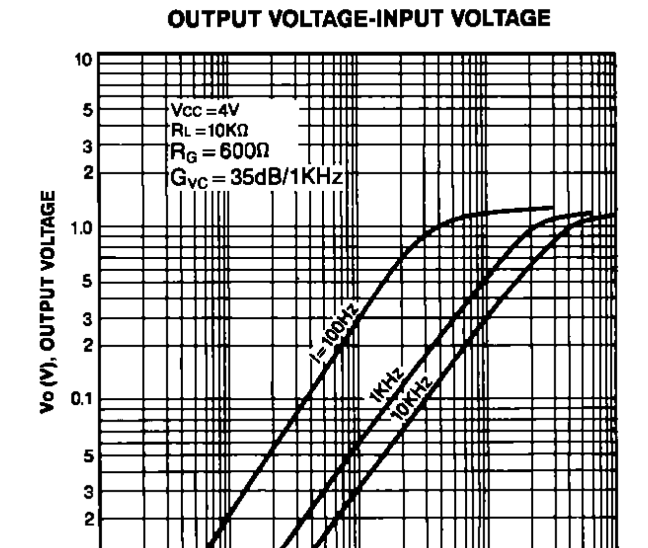


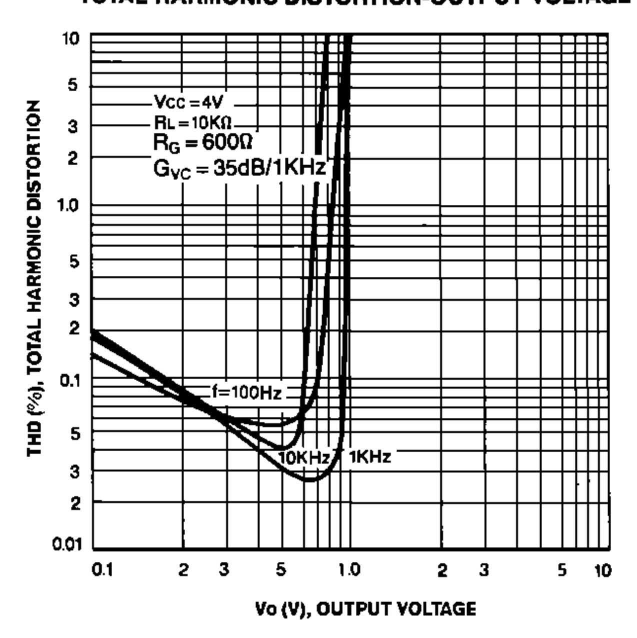
Fig. 2

OUTPUT VOLTAGE-INPUT VOLTAGE

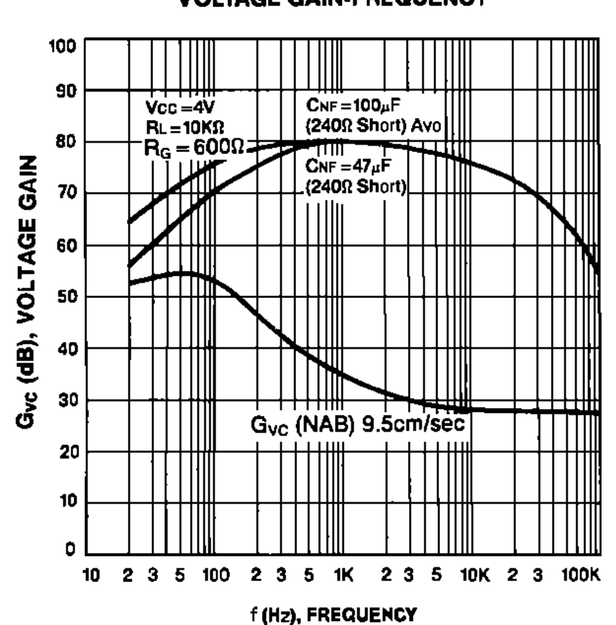


V_I(mW), INPUT VOLTAGE

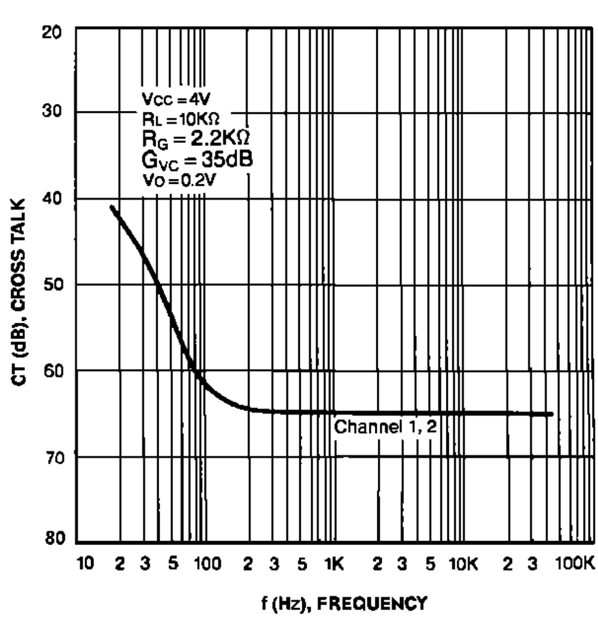
TOTAL HARMONIC DISTORTION-OUTPUT VOLTAGE



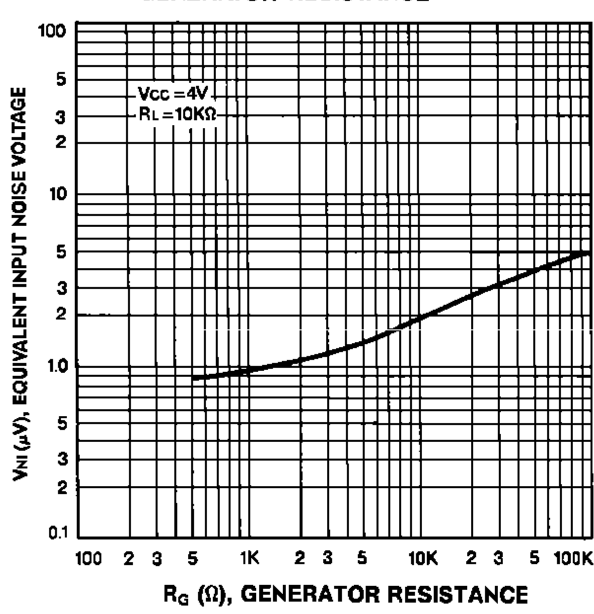
VOLTAGE GAIN-FREQUENCY



CROSS TALK-FREQUENCY

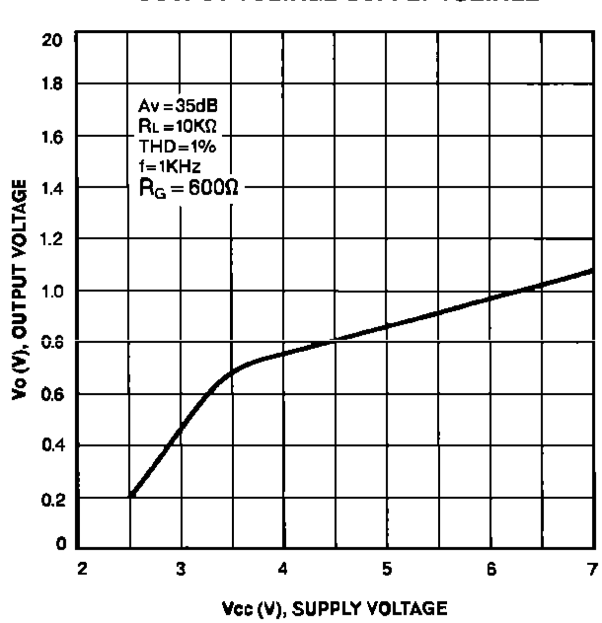


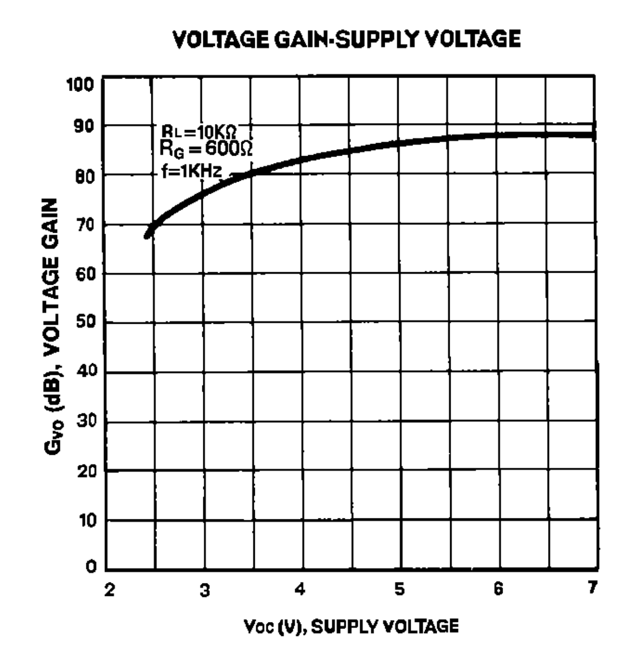
EQUIVALENT INPUT NOISE VOLTAGE GENERATOR RESISTANCE

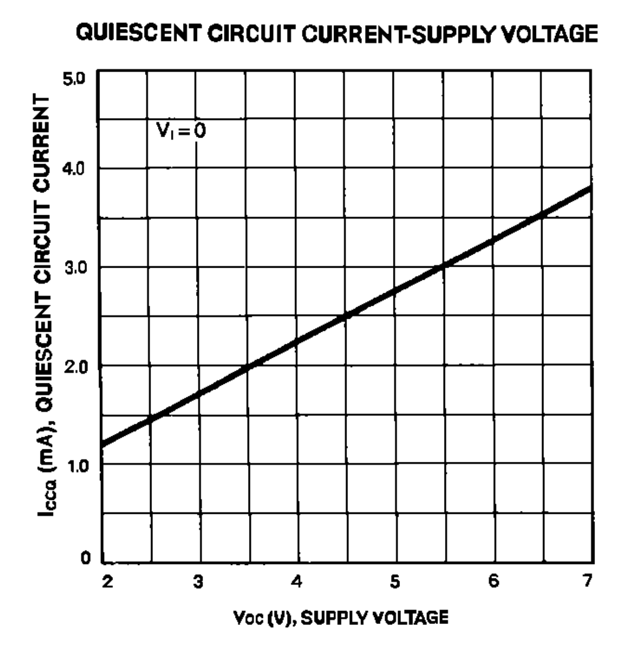


RG (Ω), GENERATOR RESISTANCE

OUTPUT VOLTAGE-SUPPLY VOLTAGE







APPLICATION CIRCUIT

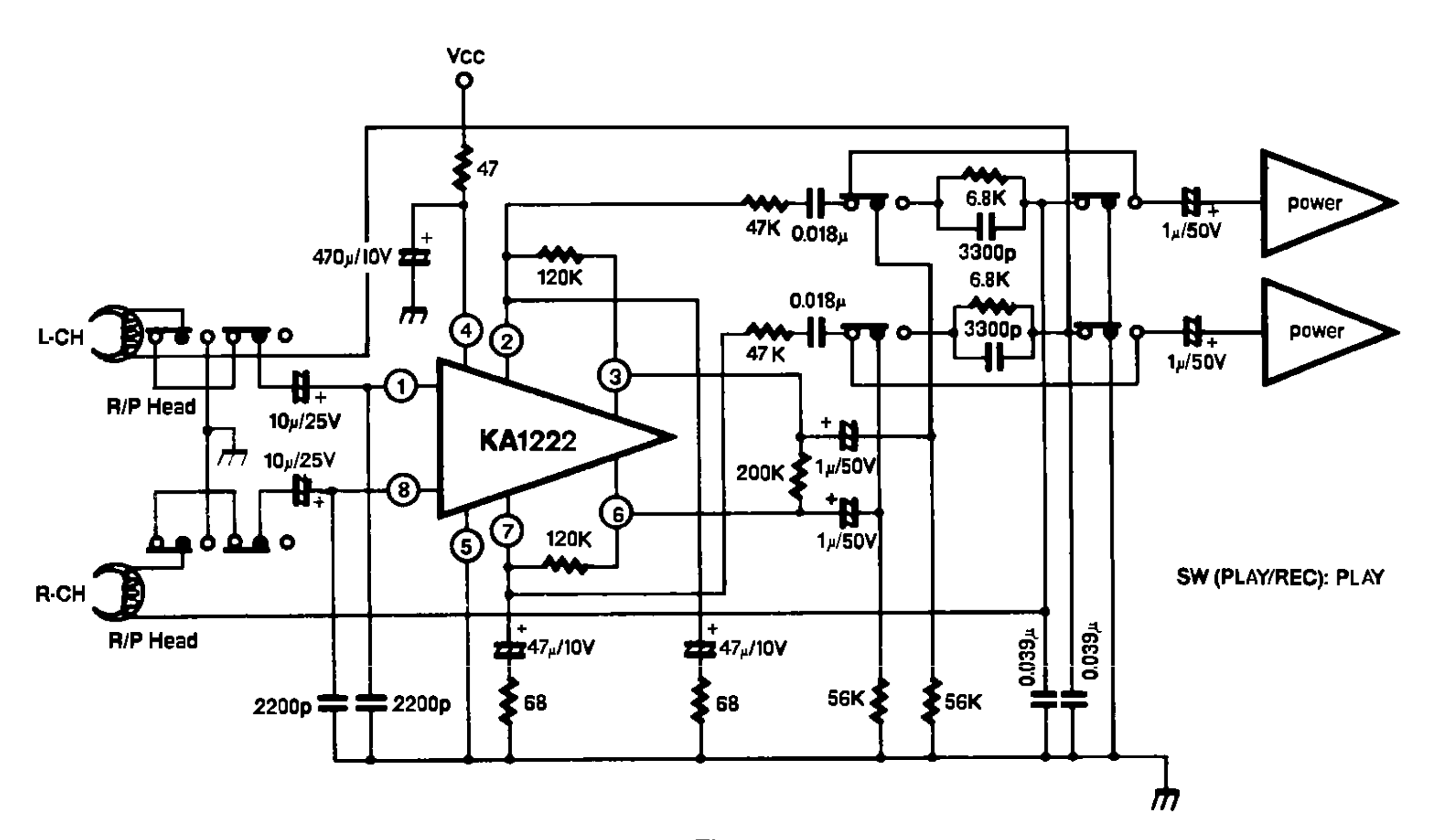


Fig. 3